CLAIMS

1. A method for a highly integrated radio receiver design comprising of

   a low noise amplifier with an output connected to

   an image rejection filter with the ability to be tuned to track a variable intermediate frequency, the output of the image rejection filter connected to

   a mixer whose second input is connected to a first local oscillator frequency and whose output is connected to

   an intermediate frequency amplifier stage whose output is connected to

   a second mixer with a second input connected to

   a second local oscillator frequency, which is a frequency divided version of the first local oscillator. The output of the second mixer is connected to a baseband low-pass filter for channel-select filtering.

2. The method of claim 1 wherein the second local oscillator stage consists of an in-phase and quadrature mixer to produce independent in-phase and quadrature baseband signals.
3. The method of claim 1 wherein the intermediate frequency amplifier stage is replaced with an intermediate frequency filter stage.
4. The method of claim 1 wherein the intermediate frequency filter stage is followed by an intermediate frequency filter stage.

5. The method of claim 1 wherein the second local oscillator frequency is an integral divisor of the first local oscillator frequency.
6. The method of claim 1 wherein the second local oscillator frequency is a fractional divisor of the first local oscillator frequency.
7. The method of claim 1 wherein the LNA is an external component to the RF chip.
8. The method of claim 1 wherein the image rejection filter is a external component to the RF chip.
9. The method of claim 1 wherein the said image filters are integrated resonant elements on the RF chip.
10. The method of claim 1 wherein the receiver is implemented with CMOS technology.
11. The method of claim 1 wherein the receiver is implemented in bipolar technology.
12. The method of claim 1 wherein the receiver is implemented in any integrated circuit technology.
13. The method of claim 1 wherein there a multiple LNA front-ends and multiple image rejection filters for multiple input frequency bands.

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